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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,390

11/03/2003

Masatomo Igarashi

117654

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01/06/2006

OLIFF & BERRIDGE, PLC  
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EXAMINER

BEATTY, ROBERT B

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/698,390

Applicant(s)

IGARASHI, MASATOMO

Examiner

Robert Beatty

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2, 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rees et al.

Rees teach an image forming apparatus having a rotatable belt 36 having a plurality of latent image forming devices (LED's) 29A, 30A, 32A, and 34A positioned around the belt. The belt will be driven by a drive roller 60 and a tension roller 64. The spacing between the imagers will be a integer multiple of the circumference of the drive roller (col.5, lines 44-65). An encoder 72 will generate clock pulses (see col.2, lines 31-38) and is associated with the drive of the drive roller (synchronous speed V1,V2,V3) and an encoder 74 which generates clock pulses is associated with the tension roller (asynchronous speed V4). See col. 5, line 61 - col. 6, line 2. The encoder outputs are sent to a electronic subsystem (ESS) and counted and further to a error generator 75 which generates an difference error (corresponding to velocity)between the encoder 72 and the encoder 74. The write timing of the imager 34A will be corrected depending on the output from error generator. The encoder signals are counted when the images are started to be formed by imagers 29A, 30A, or 32A in order to determine the speed V1,V2 or V3 and further the encoder signals

are counted when the image is started by imager 34A in order to determine a speed V4. The difference between the two will be taken and the write timing of the imager 34A will be corrected in accordance with this difference. It is noted that since the image stations 29A, 30A and 32A are separated by a integer multiple of the circumference of the drive roller, and they travel at the same speed, the encoder will generate a number of pulses corresponding to a multiple of the circumference of the drive roller (e.g. 1000 pulses will correspond to one rotation of the drive roller which will correspond to the distance between the imaging stations). Since the imager timings are controlled by the pulses from the encoder and perfect registration is required, the imagers 30A and 32A will be started at a timing when the number of pulses between the imagers has been counted.

2. Claims 3-4,7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Applicant's arguments filed 10/25/2005 have been fully considered but they are not persuasive.

The applicant argues that Rees does not disclose a counter nor of counting a clock signal. It is noted however, that an encoder is a pulse generator, that is a clock, which corresponds to the rotation of the encoder (and thus the roller/belt).

Thus the encoder produces a pulse train (clock signal) which is compared to another clock signal to obtain an error signal (difference between clock signals) which is used to correct a timing of imaging. Applicant argues that voltages are used by a voltage comparator to produce an error signal  $\Delta V$  (page 9, lines 14-16). However, nowhere in Rees are voltages mentioned. The error signal  $\Delta V$  is the speed difference between the speeds  $V_1(t)$ ,  $V_2(t)$ ,  $V_3(t)$  and the speed  $V_4(t)$  which is represented by an encoder output (i.e. pulses or clock signal). See col.7, lines 1-9).

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Robert Beatty", with a stylized flourish at the end.

Robert Beatty  
Primary Examiner  
Art Unit 2852